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ABSTRACT

Research evaluating the Nebraska University Teacher Education Program (NUSTEP) is included in this document. Areas of focus are a) the effects of the program on objectively rated academic performance, b) participant attitudes, and c) the effects of the program on generating research. Presented results are shown to indicate that NUSTEP students prefer the theoretical portion of the program as opposed to the practicum training sessions and that NUSTEP-trained teachers demonstrate a greater ability to produce pupil achievement. Research programs currently under development are presented in the remainder of the paper. (JB)

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NUSTEP, A PERFORMANCE-BASED TEACHER EDUCATION PROGRAM

THE FIRST FOUR YEARS, 1969-1973

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In any large scale system an evaluation component is often the least emphasized segment of the entire program. Assessment is generally a project add-on to fulfill certain funding agency or governmental requirements. As a consequence, the success or failure of programs is often judged on the basis of "raw-feel" rather than more formal criteria.

Many forms of program assessment exist ranging from highly constrained rigorously controlled experimental procedures to more informal survey and attitudinal studies. Within an extensive project, wide latitude is present for evaluation. NUSTEP, as a performance-based program with procedures differing from traditional curricula has provided ample opportunities for the utilization of a wide range of assessment procedures.

In this report on research generated by the NUSTEP program, three general evaluative areas will be considered. The first are those formal, large scale, objective analyses undertaken to assess the effects of the program on objectively rated academic performance. The second analysis concentrates on effects of the program on participant attitudes. A third, and no less important area, is the effect of the program on generating on-going research proposals, pilot projects, and instrument development. All three types of data collection are central to an effective assessment of the total program and also provide for its continual evaluation and revision.

Major Studies

Three studies on the doctoral dissertation level (completed) have had their primary impetus provided by the NUSTEP project; a fourth is in the final stages of preparation. While these studies cover a variety of areas, all are concerned with more formal aspects of the program.

The initial dissertation (Larson, 1970) is a comprehensive description of the developmental phase of NUSTEP. The planning process is described in great detail, with the contributions of major participants summarized, to give the reader a feel for the formative forces underlying a complex multi-level project. Actual interviews and summary recordings of major planning sessions are presented and placed in chronological sequence to graphically illustrate the vicissitudes as well as the products of the planning process.

Larson selected twelve major events from among all those curriculum components discussed, and used these to illustrate the decision-making process. From a point of opinion disparity concerning goals and rationales, the development committee gradually "hammered out" the final product through a series of decisions and compromises. For each of the curricular decisions, participants were asked by Larson to rate the degree to which they felt personally involved in the development of the event. These data indicate the ebb and flow of decision makers throughout the course of project planning.

From the standpoint of program evaluation, it is important to know the personal forces directing the project, and how the final program emerged. Analyses of forces effecting project decisions are necessary to determine future directions as these forces change. The locus of control, especially involving decision-making, often shifts, but unless comparative data are present, such changes may go unnoticed. Larson has listed nine major forces influencing this program, and as is apparent, shifts will have occurred even in the four years since the project's inception:[1]

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[1]Larson, Charles O., A Description of a Curriculum Development Project in Teacher Education, Unpublished doctoral dissertation, University of Nebraska, 1970.

1. Dissatisfaction with the traditional undergraduate teacher education curriculum.
2. Desired outcomes.
3. Interest on the part of certain persons to improve the teacher education curriculum.
4. Student-involved curriculum.
5. The Dean's Task Force.
6. An in-service project for experienced teachers financed by the Mid-Continent Regional Education Laboratory.
7. Financial resources.
8. Organizational pattern of the University.
9. Nature of pupil population.

Survey and observational ratings, by Larson, of the first NUSTEP student sample indicated both attitude shifts and changes in selected teacher behaviors. An interaction scale analysis rated teacher behavior, and a three item open-ended questionaire was used to get descriptions of student participation in the last micro-teaching assignments. NUSTEP students came to perceive themselves less as information givers and more as facilitators of the educational process. They, behaviorally, became more team oriented, more cognizant of student participation and placed less emphasis on their own in-class direction.

The project developmental process is capable, according to Larson, of description through the event concept, with analysis of the forces influencing decisions leading to more reliable outcome predictions for further procedural or program questions.

A second dissertation study (Hughbanks, 1971) centered on the extent to which the NUSTEP approach imparted lasting skills to student teachers.

From a listing of the major behaviors and skills emphasized in the program, nine concepts were selected for analysis. Student teachers were asked to rate themselves, cooperating teachers rated the students, and the student's supervisor also rated performance on the selected behaviors. All participants ranked the importance of the behaviors to teaching. And finally, all students were interviewed individually after completing most of their student teaching experience. For this last component, a structured interview form was utilized.

Thirty student teachers were randomly selected from the pool completing the NUSTEP program prior to entering student teaching.

A summary of the findings listed by Hughbanks are as follows:[2]

1. The students in the study upon completing the NUSTEP program as a group did practice eight of the nine behaviors in their student teaching experience which they had been taught in NUSTEP. Reinforcement of student responses, establishing of set, provision of student centered learning activities, and the asking of higher order questions were behaviors that were definitely in evidence in the teaching practices of the thirty teacher subjects. The subjects also gave evidence of using instructional objectives, closure techniques, and individualized instruction but to a lesser degree than the above mentioned behaviors.

2. The measures made of the behaviors of the thirty students of the study indicate that there was almost no use of the appropriate practice behavior.

3. The attitudes of the subjects toward the behaviors taught in the NUSTEP program were more positive at the close of student teaching than they were before the student teaching experience.

4. The student teachers who made high use of the nine behaviors also perceived these behaviors to be more important both before and after their student teaching experience than those student teachers who made a lower usage of those behaviors.

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[2]Hughbanks, Woodward M., A Study of the Relationship Between the Student Teaching Behavior of the TEPS and the Teaching Skills Which They Have Been Taught in the NUSTEP Program, Unpublished doctoral dissertation, University of Nebraska, 1971.

5. The behaviors which were best accomplished by the student teachers were also the behaviors which the cooperating teachers perceived as having a higher importance than the behavior least practiced by the student teachers.

6. The five student teachers who best accomplished the behaviors had cooperating teachers who rated the behaviors of higher importance than did the cooperating teachers of the five students who least accomplished the behaviors.

One of the goals of the NUSTEP program is to integrate theoretical or academic study with actual monitored practice. The combined Secondary Education and Educational Psychology courses, as well as subject matter speciality instruction provide the theoretical basis of the program. The micro-teaching segments, teacher assisting and student teaching provide the actual practice.

Attitudinal data, to be presented later, strongly suggest student preference for the theoretical portion of NUSTEP. The Hughbanks study indicated the program had effects on NUSTEP student teaching behavior. The next logical issue to consider would be the effects of the program on the ultimate concern of teacher training---namely, the impact on pupil achievement.

In a dissertation by Francke (1971), three hypotheses centering on the analysis of this question were tested:[3]

1. The achievement scores on a research post-test obtained by secondary students who were taught by prospective teacher candidates in the experimental NUSTEP curriculum will be significantly higher than the achievement scores on a research post-test obtained by the secondary students who were taught by prospective teacher candidates in the current program of teacher education.

2. Prospective teacher candidates in NUSTEP who taught the secondary students who achieved the highest mean scores on the research post-test for a given teaching experience

[3]Francke, Eleanor L., Pupil Achievement and Teacher Behaviors: A Formative Evaluation of an Undergraduate Program in Teacher Preparation, Unpublished doctoral dissertation, University of Nebraska, 1971.

will tend to conform more consistently to the teacher behaviors related to a given model of instruction taught in NUSTEP than will the prospective teacher education candidates in the current program who taught the secondary students who achieved the highest mean scores on the post-test.

3. Prospective teacher candidates in NUSTEP who taught the secondary students who achieved the highest mean scores on the research post-test for a given teaching experience will tend to conform more consistently to the teacher behaviors related to a given model of instruction than will the candidates who taught the secondary students who achieved the lowest mean scores on the research post-test.

The sample chosen for the study consisted of 15 students from the NUSTEP program and 15 students completing the conventional teaching program. Subjects were English education majors, selected randomly from the student population enrolled in either curriculum. Both groups were to teach an English grammatical concept to a small group of secondary school pupils. All tasks and materials for both groups were the same. A pre-test was administered to the pupil sample to control for differential abilities, and all study subjects were informed that the tests were not part of the course grading procedure.

The data of the study consisted of post-test measures from both samples, videotapes of the instruction, lesson plans and other materials used by the student instructors. Rated observation of procedures utilized in the instructional setting was also done. Criteria for the latter phase of the study were based on the NUSTEP model and consisted of objective specification, pre-assessment, instruction and evaluation. The rating scale ranged 0-1-2, defined as "clearly not using the behavior," "might be using the behavior," and "clearly using the behavior" respectively. Both individual and group means were calculated for comparison.

The results indicated the NUSTEP trained subjects more closely approximated the model than did the conventionally instructed students. The secondary pupils instructed by the NUSTEP trained teachers scored significantly higher on the post-test measures than the pupils instructed by the conventionally trained teachers, and the NUSTEP teachers chose to practice criterion behaviors in the absence of instructional prompts. These data led Francke to conclude ". . . that a positive relationship existed between the NUSTEP subject's ability to produce pupil achievement and his use of the teacher behaviors related to the model of instruction."

The last dissertation in the current series[4], assessed the efficacy of one of the central components of the NUSTEP program, teacher assisting.

Conventional teacher training programs have, generally, established a sequence of academic or theoretic courses, and followed these with a supervised internship of some sort. These practical experiences, typically, occur very late in the student's program, with only the most global evaluation procedures utilized, often a binary pass-fail system. The lack of feedback potential, both to the individual and the program, is obvious.

To truly profess a performance-based teacher education program, the field experience must appear earlier to allow for student re-cycling possibilities, to maximize instructional staff input to the student, and the on-going evaluation of the training program.

Within the design of the NUSTEP program, specific competencies have been established, with opportunities to practice these behaviors in simulated (micro-teaching) or actual (teacher assisting) classroom settings,

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[4] Walter, Larry J., An Assessment of the Teacher-Assisting Component of the Nebraska University Secondary Teacher Education Program, Unpublished doctoral dissertation, University of Nebraska, 1973. [In final preparation.]

prior to the formal student teaching experience. Walter (1973) has conducted a study on the effects of the teacher assisting component of the facilitation of the teaching behaviors: using instructional objectives, using appropriate evaluation techniques, establishing set and closure, use of questioning skills, individualizing instruction, using student-centered approaches, providing students with appropriate practice and finally, utilization of reinforcement for appropriate student responding.

Additionally, Walters developed an attitude scale (congruent with those mentioned previously in earlier dissertations) to ascertain the effects of the teacher assisting component on student attitudes toward the overall NUSTEP program. The thirty item Likert-type scale was administered following the twelfth week of each subject's student teaching experience.

The subject sample consisted of two groups of fifteen students drawn randomly from both English and social studies students and assigned, again randomly, to experimental and control conditions. Those students completing the total NUSTEP program (including teacher assisting) and the control group (NUSTEP minus teacher assisting) were then assigned to student teaching placements.

As the dependent variable, Walter video-taped two teaching performances of the entire sample; the initial taping done during the first eight weeks and the second during the last six weeks of the term. These tapes were then rated using a modified form of the Flanders interaction scale. Composite data of the study indicated that the teacher assisting component does significantly improve student teaching performance. Additionally, subjects completing the teacher assisting segment viewed the overall program significantly more favorably than did control subjects.

Summarizing his findings, Walter concludes:[5]

1. Student teachers who experienced teacher-assisting were more effective in using the following teaching behaviors:
   a. using instructional objectives;
   b. using appropriate evaluation techniques;
   c. achieving closure;
   d. using appropriate questioning skills;
   e. providing appropriate practice;
   f. using student-centered approaches; and
   g. using the principles of positive reinforcement.
2. Social studies students were more effective in using the NUSTEP teaching behaviors than the student teachers in English. They scored significantly higher on using instructional objectives, using appropriate evaluation techniques, and providing appropriate practice.
3. Student teachers from control and experimental groups were more effective in using the NUSTEP teaching behaviors in the later weeks of student teaching than in the earlier weeks of student teaching.
4. Student teachers in all groups were more effective in providing student-centered activities late in student teaching than they were early in the semester.
5. Student teachers who experienced teacher-assisting were more positive about the NUSTEP program than student teachers who did not teacher assist.

The four dissertations completed appear to indicate a rather pronounced NUSTEP effect on the participants across several dimensions relevant to teacher education. Consistent, highly significant results were repeatedly attained on both behavioral and attitudinal measures.

However, from a scientific standpoint, it may be that <u>any</u> change in the existing curricula may have had similar effects. The statistical procedures used by Francke, Hughbanks, and Walter only served to indicate

[5] *Ibid.*, p. 78.

a difference between experimental and control conditions. No data is available as to the magnitude of the contribution of each NUSTEP component or to any interactive effects. Thus it is possible that some segments of the program may be superfluous, with others accounting for most of the variance.

What would appear necessary for future consideration is a controlled classical experimental program to assess these effects. We, of course, realize the difficulties extant in testing any program in a free field setting, however, to continue to press evaluative studies can only improve the program.

Other less formal techniques have been developed to provide the instructional staff with feedback on day to day programmatic functions.[6] As stated previously, one of the central components of the NUSTEP program is the extensive use of micro-teaching and teacher assisting. Both of these activities require that pre-specified behaviors be part of the student teacher's repertoire.

For the micro-teaching segment, an objective rating scale, used in conjunction with video-tapes, enables both staff and student to evaluate strengths and weaknesses in lesson planning and teaching behaviors. These behaviors consist of establishing set and closure, questioning, lecture skills, control techniques, AV skills, reinforcement and feedback skills, production of student inquiry and evaluation. Data on these variables, basic to the NUSTEP approach, are collected and provided to the student both immediately following the completion of a particular section and as part of a final "block" grade.

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[6] A bibliography of these and other forms to be discussed later is being constructed. Copies will be made available upon request.

Another form available provides opportunity for the cooperating teacher, in the teacher assisting component of the program, to review and rate the student's in-class performance. The survey items closely parallel other rating forms, thereby allowing staff to test the relative reliability of ratings across program segments. The form also gives staff a rating of cooperating teacher "satisfaction" with trainees, in that part of the scale provides opportunity for the teacher to react to the present student assistant and request further participation in the program.

Two final components of the "behavioral" portion of the evaluation packet is a teacher rating scale completed by the NUSTEP students. These survey items relate to how well the instructional staff clarify objectives, organize the course, use innovative techniques and generally perform in the classroom. The basic form is used by a variety of other courses within Teachers College and has been well standardized.

Another method facilitating student input to the staff on NUSTEP procedures is the use of an overall Spiral I evaluation form. Seven items are rated by the student covering their perception of the completed component, including preparation, relationship of experiences to other program segments, length of the component and overall helpfulness of the orientation and evaluation. Most of these data are made part of the student's record and the input is provided to the student at relevant program intervals to apprise him of his progress.

An indication of the viability and visibility of a program is its ability to produce materials for publication in professional journals. As the principle means of professional communication, journal citation accelerated evaluation of a program by the feedback produced. In a recent issue (January, 1973) of the Phi Delta Kappan, for example, a summary

report of the NUSTEP program appeared, authored by Ward Sybouts, one of the progenitors of the project. The article ("Performance-Based Teacher Education: Does It Make a Difference?") discussed the salient evaluative data collected to date and indicated possible directions for future programmatic expansion. On a more informal basis, many of the program instructional staff have been in communication with various innovative teacher training programs around the nation. Dissemination of information has also been augmented by staff participation in convention and colloquia sessions, enabling them to keep abreast of recent developments and current trends in areas relevant to the NUSTEP program.

Attitudinal Studies

It is, of course, obvious that merely to modify student performance levels without changing attitudes or perceptions of these students would be counter-productive. As stated by Kelley and Walter (1971), "if a teacher (or teacher candidate) has more positive feelings about his own learning experiences, he is more likely to transmit those feelings to the students he teaches." The principle instruments for analysis of this phase of assessment were a Teacher Preparation Questionaire and a Teacher Preparation Personal Reaction Form. Kelley and Walter have collected considerable pilot data on comparisons between NUSTEP students and standard instructed students. In addition, comparisons were made between the first students enrolled during the first two years of the NUSTEP program.

The questionaire on teacher preparation is a four-part instrument designed to collect general personal history data, program information

(two forms were used, one for NUSTEP enrollees, and another for the standard instruction sample), ratings of program components utilized in the school to which the student was assigned, and a twenty-five problem checklist on which students rated common difficulties facing teachers. The Personal Reaction Questionaire was designed to provide systematic subject feedback following completion of student teaching. Again, the survey consisted of four sections, with the first a general history format. The second component rated the overall effects of the program. This section consisted of twenty questions concerning very specific course and subject matter areas. Each item in this, and the remaining sections, was ranked on a five point scale.

The third section consisted of twenty-seven value and procedural statements rated by the students. These statements were designed to assess any differences between students completing NUSTEP and the standard teacher preparation curriculum.

As might be expected, all groups generally rated the student teaching experience as the most significant aspect of their teacher preparation. Surprisingly, however, a considerable percentage of the respondents rated their NUSTEP experiences even more favorably than student teaching. These components consisted of the interdisciplinary group of courses taught by an instructional team in contrast to the traditional separate course format. NUSTEP trained teachers as a group rated their training as either first or second in importance, while only 61% of the traditionally trained teachers ranked these courses in the top <u>half</u> of the twenty items ranked. Almost 23% of these respondents ranked one or more of the courses as the <u>worst</u> part of their training.

In terms of the use of innovative practices (section II), respondents were asked to rank both the extent to which innovation was present in the classroom setting in which they were placed, and the degree of implementation of these practices the students employed. In the main, NUSTEP trained teachers reported higher usage of innovative practices than their traditionally trained counterparts. This was especially apparent in the reportage of use of a) self-assessment techniques, b) behavioral objectives, c) independent or individualized study approaches, and d) extensive use of small group work. No differences were apparent in the reported availability of innovative models in the classroom setting.

Analyses of the final questionaire component indicated a tendency for NUSTEP trained teachers to be less concerned with what could be considered issues peripheral to actual classroom processes. For instance, this sample evinced less concern with feelings of fatigue, building facilities, grading students, remediation, and processing student make-up work and more concern about time for student conferences, discipline, keeping current with the subject matter area, and teaching creativity.

The salient consideration here is that NUSTEP trained teachers, in comparison with other teacher candidates trained at the University of Nebraska-Lincoln, appear more flexible, more student-oriented, less concerned with control for the sake of control, and more confident of their innovative capabilities within the classroom setting.

The Teacher Preparation Personal Reaction Form analyses provided data on the perceptions of NUSTEP and traditionally trained teachers on the effects of the two teacher preparation programs. For example:[7]

[7]Kelley, Edgar A. and L. James Walter, "Student Attitudes Toward the Teacher Preparation Program of the University of Nebraska-Lincoln," mimeographed paper, Department of Secondary Education, University of Nebraska, 1971.

1. NUSTEP students felt more adequately prepared in the use of audiovisual materials.

2. NUSTEP students placed a higher value on pre-student teaching in school experiences, e.g., NUSTEP teacher assisting would be the probable cause of this difference in perception.

3. NUSTEP students are more positive in their overall rating of the teacher preparation program (a finding also shown in the description of the perceptions of first year teachers).

4. NUSTEP students were significantly less negative about the need for change in the teacher preparation program. (Both groups, however, sharply rejected the statement that major changes in the teacher preparation program are not needed.)

5. NUSTEP students described their teacher preparation as providing better models of teaching than those commonly found in schools.

6. NUSTEP students expressed more positive attitudes about their university supervisor's actions in identifying the actions or behaviors which they would need to demonstrate in student teaching. They also felt supervisors had specified how they would be evaluated and graded for student teaching.

7. NUSTEP students described their university teacher preparation instructors as modeling the new behaviors or practices which were suggested.

8. NUSTEP students felt they were encouraged or permitted to develop and try out new approaches in their own campus teacher preparation experiences.

9. NUSTEP students were significantly more positive about the statement that their teacher preparation program offered variety in the presentation of teaching strategies.

10. NUSTEP students expressed much higher satisfaction with the opportunities for micro-teaching and video-taping within their teacher preparation program (significant at the .000001 level).

Finally, the authors suggest that, with an artifactual perturbation in the data, the NUSTEP teacher training "effect" held across all cognate

or subject matter specialty areas.

As Kelley and Walter have concluded in their report, ". . .while some of the . . . comments have been cautionary, it should be kept in mind that the data reported (in the article and summarized above) does strongly indicate that the NUSTEP program does make a difference and that the direction of the differences noted is positive.[8]

The conclusions of this study, positive as they were, provided the impetus for further attitudinal studies of a less global, more parametric nature. The NUSTEP social studies instructional staff, for example, has developed a Social Studies Preference Guide to enable the team to organize groups, task activities, and teaching assignments.

The preference scale consists of twenty-four sections covering aspects of instructional styles, class organization, role of the teacher, type of discipline, etc. preferred by the social studies subjects. Data collected from recent enrollees enabled the social studies instructional team to compile a "student profile." Current projections include use of these data to provide formalized input to staff regarding the make-up of the student pool.

One of the most extensive data collection programs is the Attitudinal Inventory administered both to incoming NUSTEP students and as a post-test measure for departing students. The inventory consists of a series of 67 statements on various aspects of educational thought. The questionaire is divided into two sections: the first is an Educational Values Inventory; the second an assessment of Assumptions About Learning. In the values inventory, the role of the school in society, the teacher in the school,

[8] *Ibid.*, p. 20.

curriculum components and innovation, as well as considerations on student evaluation, are assessed.

The learning assumptions segment assesses students attitudes about the process of learning. Such psychological variables as presence or absence of innate exploratory behavior, self-concept and its relation to learning, intellectual development, concept formation and the assessment of learning or performance are judged by the students.

Data from this scale is currently being analyzed, with the results obtained used to ascertain developmental changes in perceptions and attitudes during the course of the NUSTEP program. Additionally, as a potential application, "profiles" of student attitudes may be constructed as "diagnostic" agents for training and placement purposes.

Another method recently implemented to facilitate student and cooperating teacher input to the planning and re-assessment process is the use of a confidential reporting scale filled out by both participants. For all cognate areas, students assessed the cooperating teacher or interest in the student, willingness to discuss methods and procedures, willingness to allow innovation and familiarity with the goals and objectives of NUSTEP. The teacher conversely rated the efficacy of the NUSTEP preplacement materials, willingness to work with students in the future based on past experience, their degree of involvement in the planning and evaluation process, and the extent to which they as teachers learned as a result of NUSTEP participation.

These data enabled staff to monitor, on an objective basis, the effects of the program on both participants, as well as any developing "trouble" spots in the placement procedure. Since the backbone of the program is the

teacher assisting experience, the use of this technique to immediately determine any difficulties is of considerable importance to the on-going program.

In the main, data analyzed to date, with minor exceptions, indicated a relatively high degree of satisfaction with the placement both on the part of the teacher and the student.

Additional or Proposed Research

One hallmark of a viable experimental system is its capability to generate and maintain on-going research. The formal analyses discussed previously are but one type of research, and do not exhaust the potential of the project. Within the constraints of a "free field" or applied research setting, considerable opportunity exists for micro-evaluation.

Many research based programs tend to ossification before additional questions are generated. The types of feedback necessary for day-to-day functioning of instructional staff are lacking for want of either formal or informal mechanisms to facilitate the assessment process. Within the design of the NUSTEP program, with its emphasis on instructional teams and broad format guidelines, ample opportunities are present for analyses of selected questions. It is to these dimensions that the remainder of the paper will be addressed. The following descriptions are of programs or projects under development or in progress and are presented to indicate to the reader the current directions of NUSTEP generated research.

In contrast to the standard teacher education procedure, with an emphasis on rigid evaluation, the NUSTEP program enables individual staff to assess components of immediate interest. For example, faced with the

problem of fairly monitoring extensive numbers of student projects, several staff members have devised standardized reporting forms which delimit the critical activities of the specified section, and provide ready access to student progress and performance. Coupled with this form, a task activity planning form specifying activity, objectives, staff requirements, and time frames for completion has also been developed. Since there are a considerable number of activities of graduated complexity, these procedures enable an instructional team to briefly review individual task performance, determine gaps in tasks and provide a rough summative reportage of student performance. Data from these devices enable the instructional team to quickly access student output and provide ready staff assessment of performance. The opportunities for systematic consequation of student activities is readily apparent.

A second type of feedback information sought by instructional teams is of an attitudinal variety. Several reporting forms have been devised by NUSTEP staff, with some in the pilot implementation stage. The first form consists of two parts. The initial component is a task supervisor certification of the satisfactory completion of the "mini-course" or short term components of the Spiral III task format (these mini-courses consist of specialized course sections on such things as drug education for science education students, etc.) A second portion of this form is a student participant rating of their perceptions of the mini-course on a three point scale.

Preliminary data indicated that 54% of respondents ratings agreed that the mini-course met their expectations, was interesting from a content standpoint, had interesting materials, and was pleasant to participate in. Addi-

tionally, the students felt that the description and course objectives were adequately stated. 14% of the sample ratings disagreed that these conditions held for the course, while the remaining 32% were neutral.

Of considerable interest, from an evaluative viewpoint, were the comments and suggestions for improvement. There was a noticeable lack of extraneous issues, with emphasis on very constructive points. It is our opinion that these data speak well of the commitment of at least a sample of NUSTEP respondents. A similar rating was conducted for an environmental education task conducted by the same instructors; again with very similar results.

As mentioned previously, an integral part of the NUSTEP program is the teacher assisting component. To assess this segment of the curriculum, a teacher assisting inventory was constructed. The form consists of attitudinal statements on student perceptions of the actual in-class climate. On a four-point scale, respondents rank the degree of satisfaction with the assigned class, general attention to class procedures, extent to which student was allowed to participate in "teacher-type" activities, amount of pressure to perform, and extent to which students felt that instructional staff direction was adequate. Generally, students rated overall class climate, and teacher rapport quite high, but ranked the extent to which the teacher utilized NUSTEP style procedures, amount of pressure, and degree of staff direction, rather low.

Rankings of student function in the classroom and order of importance to professional growth of selected NUSTEP tasks were also completed by the student. Nine of fourteen respondents ranked team teacher and tutor as their primary classroom role, with four respondents listing observer-secretary

as functions. On the task rating, teacher assisting was listed as first choice, with the Educational Psychology component ranked last.

This information provided the team leader with an agenda for changes in certain NUSTEP procedures, since it formalized a considerable amount of informal data accumulated by other instructional teams. With the valuable information gleaned from this pilot administration, the instructional team (science education) will be implementing a revised form during each school term.

Future projects with amplifications of the above procedures will involve testing student self-ratings of strengths and weaknesses in study and professional skills. These data will enable instructional staff to "diagnose" each prospective student, and plan a more individualized program or training format. A second projection is a determination of cooperating teacher profiles to achieve a more optimal "match" between the student and the training situation.

These programs are all relatively structured occasions for student input. Other more informal means of assessing the program and maximizing input also exist or are proposed. Several staff members have established separate periods to discuss and outline problem areas. Additionally, concerted efforts are made to observe the NUSTEP students in their field placements as well as discuss procedures, etc., with cooperating teachers.

A study currently in progress (Lee and Lux, 1973) using a modified form of Flanders IAS rating scale, is attempting to ascertain the effects of the NUSTEP program on the affective and cognitive skills of the student teacher. Pilot data is being analyzed, and preliminary results indicate a rather pronounced effect on these skills as practiced by the student teacher in a "free field" setting.

Summary and Conclusion: A Look to the Future

The previous summary indicates that a considerable amount of formative and summative evaluation has taken and is continuing to take place. This, however, is not to suggest that improvement cannot be made in the on-going assessment of the NUSTEP project. As is apparent, much of the summary is composed of "soft" data. In general, attitudinal and survey assessments only provide a portion of the information germane to those interested in educational innovation; e.g., an evaluation of participant perceptions. What appear necessary are more formal analyses of the impact of the program on actual teacher behavior as opposed to more affective areas. Several alternative methods are available to provide these data and still remain within the time, staff allocation, and funding constraints present in the NUSTEP program.

One approach, currently being explored, is a form of contract fulfillment analysis. Utilizing this approach, much of the idiosyncratic program assessment currently undertaken will be reduced. In addition, the system will make evaluation a conjoint process involving all NUSTEP participants--students, instructional staff, and cooperating teachers. The availability of a systematic, concise assessment program it is assumed, will reduce much of the onus of evaluation and concomitantly increase the data generating capabilities of the project.

One final comment is germane. As the project has matured from a pilot program into an on-going evolutionary program evaluation efforts have been refined and more adequately systematized. This process is also an evolutionary and continual process.

Part of the cultural mythology in American society is expressed in our tendency to report or describe in superlatives. We are always looking for the "ideal" situation and when what we grasp is less than what we reach for, we do penance for our past mistakes and with a religious fervor promise to do better. The impetus for performance-based teacher education programs, on a nationwide basis, developed from a growing concern that we were not preparing teachers with the range of skills which an increasingly competent society demanded.

In the first four years of the NUSTEP program, we have not yet found a coherent set of answers to the question of how should teachers be prepared. We most certainly have not found "the answer." We have, however, moved from past approaches to a wider understanding of present needs and, Alvin Toffler to the contrary, "present shock" may be the issue which, in reality, all educators must constantly deal with.

The NUSTEP program has not been without its successes; to a biased participant-observor, the major outcome is the in-service education of university staff and the increased cooperation with teachers engaged in practice in the secondary schools. We may not be creating the "better" teacher, but we are creating teachers whose skills are more adequately known and who are, on the basis of attitudinal data and personal observation, more humane. The needs of tomorrow may make our approaches obsolete and, indeed, if we are successful in defining the behavioral and attitudinal correlates of teaching behavior, new and multiple preparation approaches will emerge. We hope this will be the case and we look forward to being a part of this constant transformation and renewal.